Corkscrew Hair: A New Dermoscopic Sign for Diagnosis of Tinea Capitis in Black Children

Tinea capitis (TC) is the most common dermatophytosis of childhood and has an increasing incidence worldwide.¹ The presence of Microsporum canis, the most prevalent causative organism in Europe,² is usually easy to diagnose: it classically presents with a patch of alopecia, a scaly plaque, and a positive finding under Wood lamp examination. An increase in anthropophilic organisms is widely reported,³ mostly among immigrant populations and associated with a noninflammatory TC, which may present with little alopecia or scale and a negative finding under Wood lamp examination.¹ Diagnosis in black patients, where subtle erythema of the scalp is more difficult to appreciate, often presents a diagnostic challenge. The absence of a rapid, reliable, confirmatory test, coupled with a nonspecific presentation, means that patients often wait several weeks for a fungal culture result before commencing appropriate systemic therapy.

Slowinska et al⁵ have described dermoscopic findings in 2 white children with Microsporum canis.⁵ Herein, we report the dermoscopic features of TC among black children, a potentially diagnostically challenging population, in an attempt to identify specific patterns that may be used for a rapid and reliable diagnosis.

Methods. Between September 2009 and February 2010, 6 black children came to our department with a clinical suspicion of tinea capitis. All underwent direct microscopy examination and fungal cultures of scalp scrapings plus or minus hair pulls. A handheld, noncontact dermoscope was used to examine the affected areas of the scalp prior to treatment. In the absence of clinical symptoms, the frontotemporal area was analyzed. Images were captured directly through the dermoscope with a digital camera.

Results. Six children (aged 2.0-12.5 years) were included in the study, 4 boys and 2 girls. All 6 children were first-generation northwest African immigrants. Three of them had subtle, patchy alopecia and scale; 2 had discrete diffuse alopecia with no scale; and the remaining child had a diffuse cutaneous dermatophytosis but no evidence of alopecia or scale. One patient had a diagnosis of Trichophyton violaceum, 4 had a diagnosis of Trichophyton soudanense, and 1 had a diagnosis of Microsporum langeronii.

On dermoscopic examination, “comma hairs” were seen in all cases (Figure 1). Hairs in the present cases that showed a more exaggerated corkscrew or coiled appearance than was found by Slowinska et al⁵ were found in the 4 cases of T soudanense (Figure 2). Broken and dystrophic hairs were identified in all cases except the case of M langeronii. The case of T violaceum had fewer comma hairs and prominent broken and dystrophic hairs. No yellow dots were seen. As a control, we examined the scalp hair of 6 healthy children, all first-generation, northwest African immigrants and found no evidence of comma or corkscrew hair in this group.

Comment. We have identified specific dermoscopic patterns of TC in a black population and propose that dermoscopy may represent a rapid and reliable confirmatory test. All 6 cases had readily identifiable comma hairs, as described by Slowinska et al.⁶ Four patients, all with a diagnosis of T soudanense, also had more exaggerated corkscrew hairs. Such hair was not described by Slowinska et al.⁶ Broken and dystrophic hairs were also seen. Whether corkscrew hairs are a variation of the comma hair in black patient hair types or are specific to T soudanense infection deserves further investigation.

Our patients with T soudanense present had only a discrete scaling area and/or slight, diffuse alopecia. It is of
particular interest that cork screw hairs were especially
prominent in these cases because a diagnosis based on
clinical appearance would have been difficult to make.

The limitations of our study are the small number of
patients and the absence of controls. A blinded study with
a larger group of patients is needed to further define the
role of dermoscopy in the clinical setting of TC. In con-
cclusion, cork screw hair appears to be a new diagnostic
marker for TC. Dermoscopic evaluation of the scalp in
suspected cases of TC may represent a rapid diagnostic
tool of particular benefit in atypical presentations.

Rosalind Hughes, MD
Christine Chiaverini, MD, PhD
Philippe Bahadoran, MD, PhD
Jean-Philippe Lacour, MD, PhD

Author Affiliations: Department of Dermatology, Uni-
versity Hospital of Nice (Drs Hughes, Chiaverini, Bahad-
doran, and Lacour), and Pediatric Hospitals CHU-
Lenval (Dr Chiaverini), Nice, France.

Correspondence: Dr Chiaverini, Department of Derma-
tology, University Hospital of Nice, Archet 2 Hospital,
Rte de St-Antoine de Ginestiere, 06200 Nice, France
(Chiaverini.c@chu-nice.fr).

Author Contributions: Drs Hughes and Chiaverini had
full access to all of the data in the study and take respon-
sibility for the integrity of the data and the accuracy
of the data analysis. Study concept and design: Hughes
and Chiaverini. Acquisition of data: Hughes and Chiaverini.
Analysis and interpretation of data: Hughes, Chiaverini,
Bahadoran, and Lacour. Drafting of the manuscript: Hughes
and Chiaverini. Critical revision of the manuscript for im-
portant intellectual content: Hughes, Chiaverini, Bahad-
doran, and Lacour. Administrative, technical, and material
support: Hughes and Chiaverini. Study supervision: Bahad-
doran and Lacour.

Financial Disclosure: None reported.


PRACTICE GAPS

Trichoscopy in Clinical Care

The role of dermoscopy in the evaluation of pig-
mented lesions is largely accepted worldwide, and
most dermatologists today use a dermoscope in
their daily practice. The role of dermoscopy in the di-
agnosis of hair disorders is also established, but only a
few dermatologists use their dermoscope to look at the
scalp of their patients. This is a professional practice gap.

Hughes et al show that dermoscopy is a fast, nonin-
vasive, and reliable tool in the screening of children with
endothrix tinea capitis. This is just 1 of the possible ap-
lications of hair dermoscopy, also known as trichos-
copy, in the evaluation of hair disorders. There is evi-
dence that trichoscopy allows for all of the following:

1. Fast diagnosis of hair-shaft disorders;
2. Immediate differentiation between cicatricial and noncicatricial alopecia;
3. Diagnosis and information on short-term progno-
sis of alopecia areata; and
4. Differential diagnosis between telogen effluvium and androgenetic alopecia.

These are just the most common applications; many oth-
ers are being developed.1

Why then do dermatologists not use this technique?
Barriers to routine use of trichoscopy may include lack
of knowledge, necessity of training, costs, and possibly
disbelief in the technique. Trichoscopy is a relatively new
field, and most dermatologists are not aware that it is use-
ful to look at the hair and scalp with a dermoscope. They
are not familiar with hair and scalp trichoscopy patterns
and have few resources to acquire specific training. Most
dermatology meetings do not offer a single session on scalp
dermoscopy.

Another barrier to broader application is possibly that
dermatologists may believe that the cost-benefit ratio of
purchasing the instrument and the time for training yields
very little to their practice, owing to the relative rarity of
hair disorders. Perhaps the best way to dispel this mis-
conception is to state the facts: (1) trichoscopy does not
require expensive tools—in fact, most dermatologists al-
ready have a dermoscope; (2) trichoscopy is useful for
the evaluation of every patient with hair disorders; (3)
trichoscopy is noninvasive and very well accepted by pa-
tients; and (4) its routine use may improve the quality
of care for patients with hair and/or scalp conditions and
reduce the necessity for such invasive procedures as scalp
biopsies.

How can we narrow this gap and convince derma-
tologists to use their dermoscope as a tool to evaluate
the hair and scalp of their patients? Trichoscopy training is
relatively fast and simple and should be offered at con-
tinuing medical education (CME) conferences and work-
shops as well as through CME articles and Web-based
training modules. These venues would offer training to
all dermatologists and would close the gap.

Antonella Tosti, MD

Author Affiliations: Department of Dermatology and Cut-
aneous Surgery, Miller School of Medicine, University
of Miami, Miami, Florida.

Correspondence: Dr Tosti, Dermatology and Cutane-
ous Surgery, University of Miami Miller School of Medi-
cine, 1600 NW 10th Ave, RSMB, Room 2023-A, Miami,
FL 33136 (atosti@med.miami.edu).

Financial Disclosure: None reported.

1. Tosti A. Dermoscopy of Hair and Scalp Disorders With Clinical and Pathologi-